

$$a = x^2 - 6x + 8 = 0 \xrightarrow{+1} x^2 - 6x + 9 = 1$$

$$(x-3)^2 = 1$$

$$x-3 = \pm 1$$

$$\begin{cases} x-3 = 1 \rightarrow x = 4 \\ x-3 = -1 \rightarrow x = 2 \end{cases}$$

$$b = x^2 + 18x + 7 = 0 \xrightarrow{+9} x^2 + 18x + 81 = 9$$

$$(x+9)^2 = 9$$

$$x+9 = \pm 3$$

$$\begin{cases} x+9 = 3 \rightarrow x = -6 \\ x+9 = -3 \rightarrow x = -12 \end{cases}$$

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$$a = x^2 - 6x + 9 = 0$$

$$(x-3)(x-3) = 0$$

$$x \begin{cases} 3 \\ 3 \end{cases}$$

$$b = x^2 - 6x - 16 = 0$$

$$(x-7)(x+2) = 0$$

$$x \begin{cases} 7 \\ -2 \end{cases}$$

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$$a = x^2 - 2x - 15 = 0$$

$$\frac{2 \pm \sqrt{4 + 60}}{2} = \frac{2 \pm \sqrt{64}}{2}$$

$$b = 2x^2 - 3x + \frac{1}{2} = 0$$

$$\frac{3 \pm \sqrt{9 - 4}}{4} = \frac{3 \pm \sqrt{5}}{4}$$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

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$$x^2 - 2x + 1 = 0$$

$$a+b+c=0$$

$$x \begin{cases} 1 \\ \frac{c}{a} = 1 \end{cases}$$

$$4x^2 + x - 2 = 0$$

$$x^2 + x - 17 = 0$$

$$(x+4)(x-3) = 0$$

$$x \begin{cases} -\frac{4}{3} = -1 \\ \frac{17}{4} \end{cases}$$

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$$a: x^2 - 12x + 7 = 0$$

$$x^2 - 12x + 36 = 0$$

$$(x-6)(x-6) = 0$$

$$x \begin{cases} \frac{a}{a} = 1 \\ \frac{7}{6} \end{cases}$$

$$b: 2x^2 - 10x + 7 = 0$$

$$x^2 - 5x + 3.5 = 0$$

$$(x-2)(x-3) = 0$$

$$x \begin{cases} \frac{5}{2} = 1 \\ \frac{7}{2} \end{cases}$$

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$$\text{الف) } \frac{-6 \pm \sqrt{36 - 12}}{-4} = \frac{-6 \pm \sqrt{24}}{-4}$$

$$\text{ب) } \frac{1 \pm \sqrt{1 - 4}}{4}$$

$$\text{ب) } \frac{1 \pm \sqrt{1 - 4}}{4}$$

$$\text{ب) } \frac{4 \pm \sqrt{16 - 16}}{4} = 1 \quad \text{یک ریشه}$$

$$\frac{3 \pm \sqrt{9 - 4a}}{4}$$

$$9 - 4a > 0$$

$$a < \frac{9}{4}$$

$$\Delta > 0 \quad \text{الف)}$$

$$9 - 4a = 0$$

$$a = \frac{9}{4}$$

$$\Delta = 0 \quad \text{ب)}$$

$$9 - 4a < 0$$

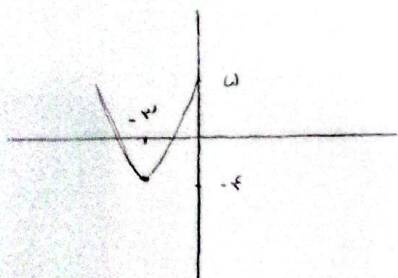
$$a > \frac{9}{4}$$

$$\Delta < 0 \quad \text{ج)}$$

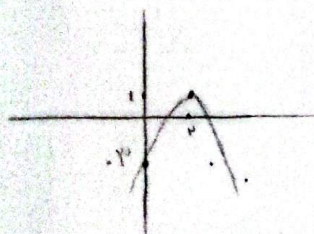
$$9 - 4a \geq 0$$

$$a \leq \frac{9}{4}$$

$$\Delta \geq 0 \quad \text{د)}$$



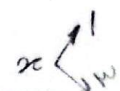
$$\text{الف) } \left. \begin{array}{l} \text{Min} \\ \text{ب} \end{array} \right| \begin{array}{l} -\frac{b}{2a} = \frac{-4}{2} = -2 \\ -4 \end{array}$$



$$\text{الف) } \left. \begin{array}{l} \text{Max} \\ \text{ب} \end{array} \right| \begin{array}{l} -\frac{b}{2a} = \frac{-4}{2} = -2 \\ 1 \end{array}$$

ریشه

$$\begin{aligned} -x^2 + 4x - 3 &= 0 \\ x^2 - 4x + 3 &= 0 \\ (x+1)(x+3) &= 0 \end{aligned}$$



$$S = \frac{-b}{a} = \frac{4}{1} = 4$$

$$P = \frac{c}{a} = \frac{-3}{1} = -3$$

$$\text{الف) } 9 + 4 = 13$$

$$\text{ب) } 27 + 18 = 45$$